

Accordingly in the above-described preferred embodiment, first layer 18 of the capacitor dielectric layer material is essentially provided with a selected finished crystalline structure prior to formation of second layer 20 thereon. Such is achieved by the crystallization or recrystallization anneal immediately prior to formation of layer 20. Also in the preferred embodiment, the final composition of second layer 20 of the first material is also desirably formed to be crystalline, although alternately such could remain amorphous if so initially deposited. In the preferred embodiment for a capacitor dielectric layer where both of layers 18 and 20 are crystalline in their final form, an interface line 19 essentially forms therebetween where such discrete layers contact (Fig. 5). Interface line 19 is characterized by a perceptible change in crystallinity from one layer to the other, such as shown or evidenced in this example by a substantial lateral shift or displacement in grain boundaries from one layer to the other. Preferably as shown in Fig. 5, crystal size in layers 18 and 20 is substantially the same in spite of the perceptible change in crystallinity, and the entire dielectric region between electrodes 16 and 22 consists essentially of layers 18 and 20.